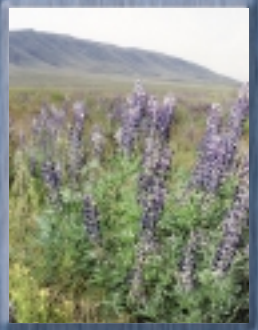
Transition the Plateau

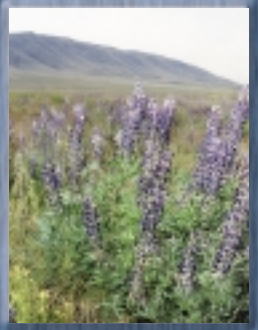
Fast Flux Test Facility (FFTF)

The Secretary of Energy announced in December that the Department would proceed with deactivation of the FFTF. Meanwhile, FFTF staff continued repairs and upgrades to fuel-handling systems that will be needed to remove stored fuel assemblies for deactivation. One component of those systems is the Closed Loop Ex-vessel Machine (CLEM), the large orange machine inside the FFTF dome. Running tests on the CLEM from the control room are test director John Logan (seated), operator Dale Shephard (left) and electrician Juan Tedpahogo.



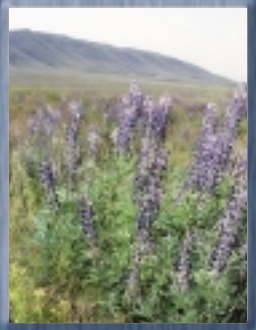
Nuclear Material Stabilization

Nuclear chemical operator Rick Wilson inserts the first can of plutonium oxide in a new glovebox, part of a second complete stabilizing and packaging system started up November 29. Looking on are Bob McQuinn, Plutonium Finishing Plant (PFP) director, and DOE facility representative Joe Waring. The system, which includes the first installation in the DOE Complex of a new instrument to measure moisture in the stabilized plutonium, is the second of two systems Fluor Hanford is now operating at the PFP to prepare four tons of plutonium for safe, long-term storage. The second system will more than double the Plant's stabilization and packaging capability, and eliminates the need to move plutonium materials between PFP's two process buildings, saving time and worker radiation exposure.



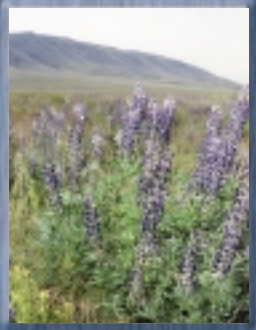
Nuclear Material Stabilization

Regulators approved disposal of certain residue waste, known as sand, slag and crucible, through a process called pipe-and-go, in which a can of the repackaged material is placed in a pipe that is then placed in a 55-gallon drum overpack container, as shown below, for ultimate shipment to the Waste Isolation Pilot Plant in New Mexico. As a result, in November PFP workers removed the last of these materials from one processing glovebox. This clears the way for the installation of new instruments that will allow the glovebox to be used to stabilize less-than-pure plutonium oxides, and represents yet another step forward in completing the cleanup mission at PFP.



Nuclear Material Stabilization

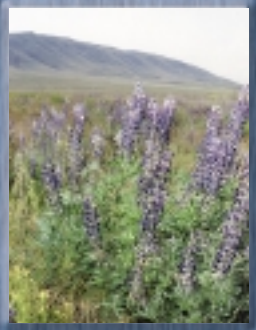
The rate of stabilizing plutonium solutions at PFP substantially increased during the past quarter, thanks in part to the success of a more efficient oxalic-acid precipitation process developed with the assistance of the Pacific Northwest National Laboratory. More than 300 liters have already been stabilized with the new chemical process, which will potentially be used for about 60% of the solutions stored at PFP. In addition, since late September, workers have packaged about 930 liters of solutions that did not require additional stabilization because they contain low concentrations of plutonium. Through December, the PFP team has stabilized 65%, by plutonium weight, and 46%, by volume, of PFP's inventory of plutonium-bearing solutions. Solutions stabilization is on schedule for completion this July.



Waste Management

Project workers completed the retrieval of uncovered drums of transuranic (TRU) waste this quarter. They assayed and relocated 504 drums during the period; a total of 769 drums have been relocated since the start of uncovered TRU drum retrieval in 1999.

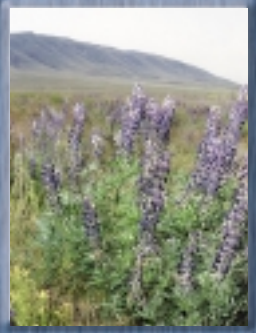
Meanwhile, preparations proceeded for the retrieval of covered, or buried, drums. The National Environmental Policy Act environmental assessment public review ended in mid-December. A plan of action is being prepared for the appropriate readiness activities that will take place once safety-analysis documentation is approved.



Waste Management
Spent Nuclear Fuel Project Support

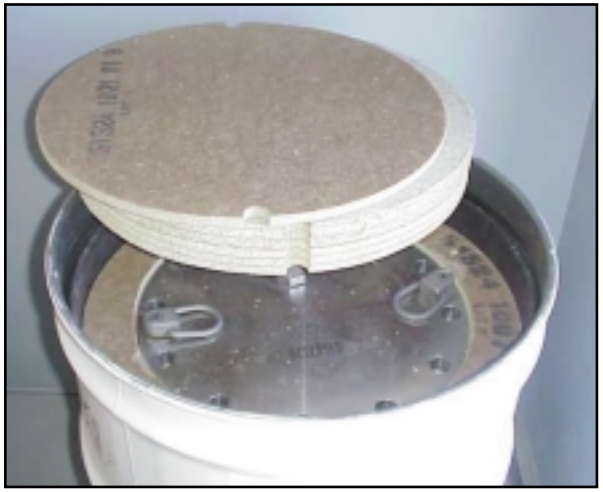
T-Plant workers completed cleanout of the first of eight cells that are needed to receive and store sludge from the K Basins. Before (left) and after (right) photos of the cell's interior are shown.

In addition, an auxiliary, 10-ton slave crane at the Plant is being inspected to determine parts needed to repair it. When operable, the crane will be used to help the Project meet its schedule for fuel movement and cell cleanout at T Plant.



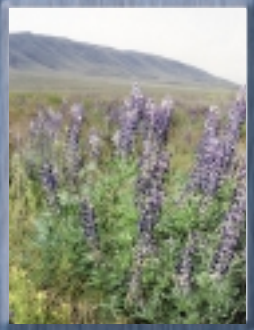
Waste Management
Nuclear Material Stabilization Support

The Waste Management team supports the Nuclear Material Stabilization Project by accepting waste shipments from PFP into the Central Waste Complex for interim storage pending future processing or offsite shipment. This quarter, shipments of Hanford ash and 106 pipe-overpack containers, like the one shown, were accepted for storage at the Central Waste Complex.



Other Waste Management

Hanford has long been the repository for defueled naval reactor compartments from the US Navy's nuclear fleet. While this activity is not considered part of the cleanup scope covered by the Tri-Party Agreement, it represents another aspect of nuclear-waste disposal at Hanford. During the past quarter, the 100th naval reactor compartment arrived at Hanford. The Waste Management team safely completed its disposal in a huge trench in central Hanford with the other, previously received units.



Environmental Restoration on the Plateau

The 233-S Plutonium Concentration Facility is the first plutonium production facility to undergo decontamination and decommissioning at Hanford. The Bechtel-led Environmental Restoration Contract (ERC) team is ahead of schedule on this project. They removed three more vessels from the highly contaminated process hood this quarter, bringing the total to 12 removed – eight more than originally planned. The ERC team's productivity is a direct result of their focus on safety and planning. Workers, dressed in two layers of protective clothing, have made more than 10,000 entries into the facility. The team has performed difficult tasks in cramped quarters while maintaining an excellent safety record since the project began four years ago.